Indirect effects of recovery strategies - DTU Orbit (06/08/2016)

Indirect effects of recovery strategies

For a higher organism to grow another organism has to die. This obvious and fundamentalrelation means that if one species group increases in abundance, the prey species will sufferincreased mortality. One the other hand, the predators of said species will have a moreabundant food supply. Size-based models of fish communities indicate that theserelationships have lawful dynamics that continue to be expressed, even when individualspecies become rarer - as predators or as prey. An ecosystem based management recoverystrategies of a given species or group of species should therefore not be seen in isolation,but the expected consequences for the rest of the ecosystem must be analyzed. We use ageneral size- and trait-based model to calculate the ecosystem effects of fishing andrecovery. We present a general analysis of a recovery strategies targeting either large fishes(consumer fishery), small fishes (forage fish fishery), or the ecosystem as a whole. Wecalculate expected recovery time and demonstrate indirect effects on prey, predators andbeyond, and provide some insight into the relative difficulty of selective rebuilding of populations of large or small fish

General information

State: Published
Organisations: National Institute of Aquatic Resources, Section for Marine Ecology and Oceanography, Department of Fisheries and Oceans
Authors: Andersen, K. H. (Intern), Rice, J. (Ekstern)
Publication date: 2009
Event: Abstract from ICES/PICES/UNCOVER Symposium 2009 on Rebuilding Depleted Fish Stocks, Warnemünde/Rostock, Germany.
Main Research Area: Technical/natural sciences
Publication: Research › Conference abstract for conference – Annual report year: 2009